

CLAIMS:

1. The enzyme Lp-PLA₂ in purified form

5 2. The enzyme Lp-PLA₂ according to claim 1 characterised by one or more partial peptide sequences selected from SEQ ID NOs:1, 2, 3, 4, 10 and 11 and/or by having a molecular weight of at least 45kDa.

10 3. The enzyme Lp-PLA₂ according to claim 1 or 2 having a molecular weight of 45kDa.

4. The enzyme Lp-PLA₂ according to claim 1 or 2 having a molecular weight of 45-50kDa.

15 5. The enzyme Lp-PLA₂ according to claim 4 having a molecular weight of 45-47kDa

6. The enzyme Lp-PLA₂ according to claim 5 having a molecular weight of 46-47kDa

20 7. The enzyme Lp-PLA₂ according to claim 1 characterised by the partial peptide sequence corresponding to residues 271 to 441 of SEQ ID NO:9.

8. The enzyme Lp-PLA₂ according to claim 1 having the sequence given in SEQ 25 ID NO:9, or an enzyme or fragment thereof having Lp-PLA₂ activity and substantially homologous to SEQ ID NO:9.

9. An enzyme fragment selected from SEQ.ID NOs:1, 2, 3, 4, 10 and 11.

30 10. An isolated nucleic acid molecule encoding Lp-PLA₂ or an antisense analogue thereof.

11. An isolated nucleic acid molecule encoding the enzyme or fragment of any one of claims 1 to 9 or an antisense analogue thereof.

35 12. An isolated nucleic acid molecule according to claim 10 comprising the sequence corresponding to:
bases 1-389 of SEQ.ID NO:5;
bases 1-304 of SEQ.ID NO:6;
40 bases 1-278 of SEQ.ID NO:7; or
SEQ.ID NO:8;
or an antisense analogue thereof.

13. An isolated nucleic acid molecule according to claim 10 comprising the sequence corresponding to bases 848 to 1361 of SEQ ID NO:9 or an antisense 45 analogue thereof.

14. An isolated nucleic acid molecule according to claim 10 consisting of bases 1 to 1361 or 38 to 1361 of SEQ ID NO:9 or a nucleic acid molecule encoding an enzyme having Lp-PLA₂ activity and substantially homologous to said isolated molecule, or antisense analogues thereof.

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15. A recombinant vector comprising the nucleic acid molecule of any one of claims 10 to 14.

10 16. A host cell comprising the molecule of any one of claims 10 to 14.

17. The use of an inhibitor of the enzyme Lp-PLA₂ in therapy.

18. The use of an inhibitor of Lp-PLA₂ in the treatment of atherosclerosis

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19. A method of diagnosis of a patients susceptibility to atherosclerosis which comprises taking a sample of blood from the patient and analysing said sample for the presence of the enzyme Lp-PLA₂.

20. 20. The method according to claim 19 in which the analysis of said sample comprises assaying the sample for enzyme activity.

21. The method according to claim 19 in which the analysis of said sample comprises assaying the sample for protein content using polyclonal or monoclonal antibodies raised against the enzyme.

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22. A polyclonal antibody raised against the purified Lp-PLA₂ enzyme as claimed in any of claims 1 to 8.

30 23. A monoclonal antibody raised against the purified Lp-PLA₂ enzyme as claimed in any of claims 1 to 8.

24. A method of screening compounds to identify those compounds which inhibit the enzyme comprising contacting isolated enzyme Lp-PLA₂ with a test compound and measuring the rate of turnover of an enzyme substrate as compared with the rate of turnover in the absence of test compound.

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